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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,842	12/31/2001	Krishnan Santhana Rengarajan	TI-33370/TXN-021	5345

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EXAMINER

AGHDAM, FRESHTEH N

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/029,842	Applicant(s) RENGARAJAN, KRISHNAN SANTHANA	
	Examiner Freshteh N. Aghdam	Art Unit 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 6, 13-17 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 6, 13-15, 17, 20-22, and 24 is/are rejected.
- 7) ☐ Claim(s) 16 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendments

Previously examiner found claims 4, 8, 13-17, and 20-24 allowable subject matters, but a new examination of the application indicates that claims 4, 8, 13-15, 17, 20-22, and 24 are not allowable. The following is the new rejection made by the examiner regarding the amended claims 4, 8, 13-15, 17, 20-22, and 24.

Claim Objections

Claims 13, 15, and 22 are objected to because of the following informalities:

As to claim 13, the word "sample" should change to "sampled" in line 17.

As to claims 15 and 22, the expression "another sample" has no antecedent basis in line 2.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee et al (6,760,389), and further in view of the instant

application's admitted prior art and Eglit (US Pub. 2002/0031198).

As to claims 1, and 6, Mukherjee et al teach a data and clock recovery system comprising receiving an analog signal 125, examining the analog signal for a transition in block 205, capturing the data tokens by sampling the analog signal 125 wherein the sampling is occurred in transition detector 205. Mukherjee et al do not teach selecting (i.e. determining) the data token as one of the sequence of data tokens instead of another data token; each of the sequence of data tokens comprises a bit; and generating a first plurality of data tokens by sampling the analog signal at time points specified by a sampling clock signal, wherein said sampling clock signal is generated by examining said analog signal, wherein said providing comprises selecting said data token generated by said capturing instead of a corresponding one of said first plurality of data tokens. The instant application's disclosed prior art discloses that data token is a bit representing one of two possible values (Pg. 2, Line 6). Eglit, in the same field of endeavor, teaches selecting a data token responsive to the result of the transition detection (Pg. 5, Par. 91); generating a first plurality of data tokens by sampling said analog signal at time points specified by a sampling clock signal, wherein said sampling clock signal is generated by examining said analog signal (Fig. 2, means 127, 210, 230, 231, and 215; Fig. 4, means 125, 410, and 412), wherein said providing comprises selecting said data token generated by said capturing instead of a corresponding one of said first plurality of data tokens (Fig. 4, means 410, 450, and 480). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Eglit with

Mukherjee et al and the instant application' disclosed prior art in order to recover data encoded at high speed in a signal over a serial communication channel (Abstract).

Claims 13-15 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee et al, and further in view of Eglit.

As to claim 13, Mukherjee et al teach a data and clock recovery system comprising receiving an analog signal 125, examining the analog signal for a transition in block 205, capturing the data tokens by sampling the analog signal 125 wherein the sampling is occurred in transition detector 205; and a recovery circuit receiving said analog signal and generating a clock out signal delayed in phase from a sampling clock signal, wherein said sampling clock signal is based on said analog signal (Fig. 2, means 217, 140, and 215). Mukherjee et al do not teach selecting (i.e. determining) the data token as one of the sequence of data tokens instead of another data token; and said sample data token is received after said transition in said analog signal. One of ordinary skill in the art would clearly recognize that it is well known in the art to detect transition before sampling by for instance applying the zero crossing method. Eglit, in the same field of endeavor, teaches selecting a data token responsive to the result of the transition detection (Pg. 5, Par. 91). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Eglit with Mukherjee et al in order to recover data encoded at high speed in a signal over a serial communication channel (Abstract).

As to claim 20, Mukherjee et al teach a data and clock recovery system comprising receiving an analog signal 125, examining the analog signal for a transition

Art Unit: 2631

in block 205, capturing the data tokens by sampling the analog signal 125 wherein the sampling is occurred in transition detector 205; and a recovery circuit receiving said analog signal and generating a clock out signal delayed in phase from a sampling clock signal, wherein said sampling clock signal is based on said analog signal (Fig. 2, means 217, 140, and 215). Mukherjee et al do not teach selecting (i.e. determining) the data token as one of the sequence of data tokens instead of another data token; an application block receiving and using said sequence of data tokens; and said sample data token is received after said transition in said analog signal. One of ordinary skill in the art would clearly recognize that it is well known in the art to include an application block receiving and using the sequence of data tokens and detect transition before sampling by for instance applying the zero crossing method. Eglit, in the same field of endeavor, teaches selecting a data token responsive to the result of the transition detection (Pg. 5, Par. 91). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of Eglit with Mukherjee et al in order to recover data encoded at high speed in a signal over a serial communication channel (Abstract).

As to claims 14 and 21, Eglit teaches generating another data token according to said sampling clock (Fig. 2, means 127, 210, 230, 231, and 215; Fig. 4, means 125, 410, and 412).

As to claims 15 and 22, Eglit teaches a data recovery circuit, wherein said another sample comprises a previous sample, wherein said previous sample is received in said analog signal prior to said sampling clock (Pg. 5, Par. 90 and 91; Pg. 6, Par. 105).

Claims 17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukherjee and Eglit, further in view of the instant application's disclosed prior art.

As to claims 17 and 24, Mukherjee and Eglit teach all the subject matters claimed above, except for each token comprises a bit. The instant application's disclosed prior art teaches each of the sequence of data tokens comprises a bit (Pg. 2, Line 6). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teaching of the instant application's disclosed prior art with Mukherjee and Eglit in order to transmit and receive data from one system to another using serial communication channels (Pg. 2, Lines 6-8).

Allowable Subject Matter

Claims 16 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 16 and 23, the prior art of record fails to teach a data recovery system as recited in the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571)

Art Unit: 2631


272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Freshteh Aghdam

August 14, 2005


KEVIN BURD
PRIMARY EXAMINER